

EMPLOYEE PAGES

GRC's staff at Lewis Field and Plum Brook are environmentalists at heart. This presentation highlights their sustainable practices at work and at home.



Green Energy Ohio:
November 4 statewide Ohio solar tour

Inside:

- Dumpster divers
- Bikers
- Green Energy Ohio
- Geothermal heating
- Strawbale houses
- Carpoolers
- Hybrid / alt fuel owners
- Animal protection
- Educators

Dumpster divers:

- Mike Quintin, CMT Lead
- Pete Kennedy, Recycling Specialist
- Bill Muscolo, Chemical Inventory Specialist

Mike and Pete have an office just inside the door from a trash dumpster.

They have salvaged and refurbished a few items, including a multi-hanger coat rack and Christmas decorations.



Mike and Bill



Pete

Bicycles:

Bicycling is a form of transportation within NASA's walls.

Also, many pedal to work, even when the weather isn't quite perfect:

Bicycle Commuters and round trip miles:

- ☀ Mike Blotzer – 20 miles (year round)*
- ☀ Angela Windau – 20 miles
- ☀ Nancy Piltch – 14 miles
- ☀ Don Roth – 10-17miles (year round)
- ☀ Dan Dietrich – 12-14 miles (almost year round)
- ☀ Fletcher Miller – 8 miles
- ☀ Jane Manderscheid – 7-10 miles
- ☀ Dale Stalnaker – 26 miles

- ☀ Fred Oswald – 20 miles (year round)
- ☀ Dick Woodward – 30 miles (year round)
- ☀ John Wolter – 13 miles
- ☀ Mark Kilkenny – 18-22 miles
- ☀ Mary Vickerman – 14 miles
- ☀ Don Palac – 18 miles
- ☀ David Hervol – 10 miles
- ☀ Sandra Olson – 18 miles
- ☀ Butch Legarth – 18-22 miles



Mike Blotzer,
EMO Chief.



Bicycles and rack outside of Bldg 21.

* "Year round" means within reason.

Even year-rounders may not bike in 10 degree weather or heavy ice.

Alternative energy:

- Green Energy Ohio

Fletcher Miller, Fuel Cell Researcher, is also Vice President of Green Energy Ohio (GEO). GEO is a not-for-profit organization that promotes sustainable energy policies and practices in Ohio.

Current projects:

- ☼ investigating sites for wind development
- ☼ working with municipal utilities
- ☼ providing training opportunities
- ☼ promoting residential renewable energy



Bowling Green wind farm dedication – November 2003.



First turbine at Bowling Green.

Alternative energy:

- Geothermal heating

Chris Dellacorte, Materials Research Engineer, uses geothermal heating in his home.

Geothermal heat pumps (GHPs), also known as groundsource heat pumps or “GeoExchange” systems, are among the most efficient and comfortable heating and cooling technologies currently available.

GHPs take advantage of the nearly constant temperatures of the earth a few feet below the surface. They collect heat from the earth (or a body of water) during the heating season, and transfer heat from the building to the earth (or a body of water) during the cooling season.

They are appropriate for use in warm or cold climates, and are more efficient than traditional heat pumps that exchange heat between a building and the outside air. (EPA)

BENEFITS OF GEOTHERMAL HEAT PUMPS

- Greatly reduced energy costs.
- Reduced emissions of greenhouse gases and other pollutants.
- Higher installation cost is paid for in just three to five years of energy savings.
- Quiet operation.
- Low maintenance costs.
- Suitable for warm or cold climates.



The ultimate in
geothermal.
(Not Chris's house.)

Sustainable Design:

- Straw-built homes

Mark Hoberecht is a natural building advocate that has built an earth and straw guest cottage on his property in Columbia Station. Mark is a GRC Electrical Engineer who works on PEM Fuel Cell projects in the Electrochemistry Branch,

- ⚙ Wall, floor, and ceiling materials allow air diffusion.
- ⚙ Building materials naturally regulate indoor air humidity.
- ⚙ 12-V electrical system powered by a small photovoltaic panel.
- ⚙ Interior surface materials neutralize pollution.



Mark Hoberecht's cottage

Learning from nature.
Straw home by bluebirds.



by bluebirds

Carpoolers:

Carpooling cuts the use of resources – gas, oil, tire rubber, other maintenance. Plus reduces emissions of pollutants. See the chart, below.

Carpoolers & round-trip miles:

- ☀ Toni Mayor and Bill Muscolo
 - Youngstown, Ohio: 160 miles
- ☀ Hal and J
 - Where?: 20 miles
- ☀ ?

Pollutant Problem	Amount Saved	VMT Reduced/Year	Pollution or Fuel Consumption Reduced or Saved/Yr.
Hydrocarbons (Urban ozone [smog] and Air Toxics)	3.5 grams/mile	10,000	77 lbs of HC
Carbon Monoxide (Poisonous gas)	25 grams/mile	10,000	550 lbs of CO
Nitrogen Oxides (Urban ozone [smog] and Acid Rain)	1.5 grams/mile	10,000	33 lbs of NOx
Carbon Dioxide (Global warming)	1.0 pound/mile	10,000	9,900 lbs of CO ₂
Gasoline	0.05 gallon/mile	10,000	500 gallons gasoline
Money	\$500 / year	at \$1.00	a gallon

Emissions and gas savings from a sample carpool.
From the Sacramento Transportation Management Association.

Hybrid/alternative fuel car owners:

Hybrid cars combine unleaded gas and alternative environmentally preferable fuel such as ethanol or natural gas, reducing polluting emissions and increasing gas mileage.

Hybrid / alternative fuel car owners:

☀ Walt Kocher – Ford Taurus: E85 compatible



Dodge Stratus. E85 (ethanol) compatible.
Many cars are manufactured to be hybrids,
and purchasers are not aware. Check your
fuel tank cover for notations.

Animal protection: (page 1 of 3)

"The greatness of a nation and its moral progress can be judged by the way its animals are treated." - Mahatma Ghandi

GRC personnel work to protect animal rights, doctor animals back to health, support animal adoption and spaying, and educate to reduce cruelty and neglect.

Adopt-A-Collie activist:

☀ **Betty Hodgson**, Lead Industrial Hygienist

NEO Collie Rescue keeps an eye on local animal shelters and "bail out" collies whenever they show up. The dogs are evaluated for temperament, health, training, etc., and are given vet care and shots and washed and groomed.



Link: <http://www.ohiocollie.petfinder.org>

House Rabbit Society activist:

☀ **Angela Windau**, Industrial Hygienist

HRS is an international non-profit organization that rescues rabbits and educates the public on rabbit care and behavior.



Links: National HRS: <http://www.rabbit.org/>
Buckeye (Ohio) HRS: <http://www.ohare.org/>

AlterPet activist:

☀ **Luann Keys**, Building Manager



AlterPet is a nonprofit organization, finding humane solutions to pet overpopulation in Medina County. Their mission is to combat cat/dog overpopulation and euthanasia through low cost spay/neuter programs and educating the public. They also foster and offer altered dogs and cats for adoption.

Link: <http://netpets.org/~alterpet/>

Animal protection:

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Rainbow Connection Animal Foundation:

☀ Christina Pultrone, Technical Writer

RCAF is a non-profit, no-kill animal rescue organization which rescues homeless, abandoned, and surrendered cats and kittens and ultimately places them in loving homes. They also use trap/neuter/release methods in order to maintain the feral and stray cat population.

Link: <http://rcaf.petfinder.org/>

Animals' Disaster Team:

☀ Luann Keys, Building Manager

Works with local emergency rescue authorities and the American Red Cross during emergencies/disasters. Provides temporary housing, food, and basic first aid.

Link: <http://netpets.org/~adt/>

Why dose P2 care about domesticated animals?

On the humane side:

- There is an overpopulation of dogs and cats, so thousands of stray and unwanted animals must be killed every year.

On the practical side:

- Because of the overpopulation of dogs and cats, just as with humans, this increases the strain on natural resources.

On the logical side:

- Understanding all forms of life gives us tools for sustainable solutions. But having respect and compassion for all life helps us make the truly sustainable decisions that will succeed.



Cleveland Animal Protective League

Animal protection:

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Parma Animal Shelter:

☀ Carolyn Rist, Lead Tech Info Spec

The Shelter's mission is to reconcile lost pets with their owners and find good homes for stray cats, dogs and rabbits brought in by the Parma Animal Warden. The Shelter is run by volunteers who walk dogs, clean cages, feed animals, and give them love.

Link: <http://www.parmashelter.org/>

Forgotten Animal Sanctuary:

☀ ??

Love a Stray:

☀ Ronda Susak, OAI Financial Bus. Systems Analyst

Love-A-Stray is a non-profit, all volunteer, no-kill organization dedicated to helping homeless animals. Their mission is to end the pet overpopulation problem through: aggressive low cost spay/neuter programs, support and implementation of trap/neuter/return programs for feral cats, aggressive and innovative adoption programs, and education of the public on the importance of spay/neuter.

Link: <http://www.petfinder.org/shelters/OH207.html>

TEST ANIMALS:

Hundreds of thousands of animals are poisoned, blinded, and killed every year in outdated product tests. These tests are not required by law, and often produce misleading results—even if a product has blinded an animal, it can still be marketed to you.

More sophisticated tests are faster, cheaper, and far more accurate. Human cell cultures and tissue studies (in vitro tests) and artificial human “skin” and “eyes” mimic the body’s natural properties, and a number of computer virtual organs serve as accurate models of human body parts.

(from PETA website.)

Educators:

Some personnel educate the public in environmental practices, in universities or by volunteer work.

Educators:

- ☼ Walt Kocher – Cleveland State University professor
- Environmental engineering and technology

- ☼ Other

Other environmental efforts:

☀ Pete Kennedy discontinued use of ChemLawn – going natural

☀ Other